

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Andrew T. Sultenfuss *et al.*
Serial No.: 10/679,130
Date Filed: October 3, 2003
Group Art Unit: 2467
Confirmation No. 2208
Examiner: Berhane, Yosief H.
Title: **SYSTEM, METHOD & DEVICE FOR
TUNING A SWITCHED TRANSMISSION
LINE FOR ETHERNET LOCAL AREA
NETWORK-ON-MOTHERBOARD (LOM)**

MAIL STOP – APPEAL
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

PRE-APPEAL REQUEST AND ARGUMENTS

The following Pre-Appeal Brief Request for Review (“Request”) is being filed in accordance with the provisions of the Official Gazette Notice of July 12, 2005. This Request is being filed concurrently with a Notice of Appeal. Applicants respectfully request reconsideration of the Application in light of the remarks set forth below.

REMARKS

Claims 1-15, 19, and 20 stand rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,920,185 by Scott R. Hinson (“*Hinson*”) in view of U.S. Patent 6,393,109 by Bernd Willer (“*Willer*”), and further in view of U.S. Patent 7,058,172 by Zemin Jiang et al. (“*Jiang*”). Applicants contend that the claim rejections contain clear legal and factual deficiencies as described below.

In the Advisory Action dated September 9, 2011 (“AA”), the Examiner maintains the rejection of independent Claims 1, 9, and 19 under 35 U.S.C. § 103(a). (AA, Continuation Page 2). Applicants respectfully submit that the cited references fail to teach, disclose, or suggest every element of Applicants’ claimed invention. *Hinson, Willer* or *Jiang*, alone or in combination, fail to disclose, teach or suggest “the inductive devices selected and coupled to the board-mounted transmission lines to offset at least one electrical characteristic of the communication switch such that one or more electrical characteristics of selected board-mounted transmission lines may be tuned to substantially approximate one or more electrical characteristics required by a communication protocol on an external network,” as recited in Claim 1. Additionally, *Hinson, Willer* or *Jiang*, alone or in combination, fail to disclose, teach or suggest “the inductive devices selected and positioned to offset an electrical characteristic of the Ethernet switch such that an impedance measure from the Ethernet physical layer transceiver to an external Ethernet network connection on the circuit board substantially matches an impedance measure required by a communication protocol on the external Ethernet network,” as recited in Claim 9. Further, *Hinson, Willer* or *Jiang*, alone or in combination, fail to disclose, teach or suggest “at least one of the four pairs of board-mounted transmission lines having included on each board-mounted transmission line an inductive device serially coupled thereto, selection and placement of the inductive devices to offset an electrical characteristic of the electronic switch such that substantial impedance matching is achieved with a communication protocol on a communication network to be connected to the information handling system,” as recited in Claim 19.

In order to establish a prima facie case of obviousness, the references cited by the Examiner must disclose all claimed limitations. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). Indeed, as the Board of Patent Appeal and Interferences confirmed that a proper obviousness determination requires an Examiner to make “a searching comparison of the claimed invention – *including all its limitations* – with the teaching of the prior art.” See *In re Wada and Murphy*, 2008 WL 142652, *4 (B.P.A.I. Jan. 14, 2008) (emphasis in original) (citing *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995)).

Applicants submit the rejection is improper at least because the Examiner fails to address all of the claimed limitations. Specifically, the Examiner has not addressed the limitation “*tuned to substantially approximate one or more electrical characteristics*”

required by a communication protocol on an external network,” as recited in Claim 1; “*substantially matches an impedance measure required by a communication protocol* on the external Ethernet network,” as recited in Claim 9; and “such that *substantial impedance matching is achieved with a communication protocol* on a communication network to be connected to the information handling system,” as recited in Claim 19. (Emphasis added).

For example, in referring to Claims 1, 9, and 19 the Examiner states “*Hinson* does not teach ‘. . . such that one or more electrical characteristics of selected board-mounted transmission lines may be tuned to substantially approximate one or more electrical characteristics required by a communication protocol on the external network.’” (Final Office Action (“FOA”), Page 3). The Examiner then apparently contends that *Willer* discloses the above recited limitations by stating that

Willer teaches a communication system in Figure 3 where a plurality of inductive devices are coupled to telephony wire lines and wherein inductors are selected to insure that the impedance encountered by the two wire bus lines 20c and 20d match the input impedance of the analog terminal ends 19 in order to minimize capacitance and reflections.

(FOA, Page 4). Additionally, the Examiner merely states that “*Jiang* teaches the use of impedance matching circuits to reduce or prevent the reflection of signals (electrical characteristics) on transmission lines received from an Ethernet switch via Ethernet interfaces.” (FOA, Page 4). Thus, the Examiner completely fails to address the limitations of Claims 1, 9 and 19 cited above, with absolutely no mention of how the cited references perform tuning to substantially approximate one or more electrical characteristics or impedance matching with respect to a communication protocol.

Applicants additionally submit that even if Examiner had addressed the limitations of Claims 1, 9 and 19 cited above *Hinson*, *Willer* and *Jiang*, alone or in combination, fail to teach, suggest, or disclose tuning to substantially approximate one or more electrical characteristics or impedance matching with respect to a communication protocol. *Willer* addresses the problems of “signal loss” or “harmonics” which would “limit[] the effective transmission distance” in a network. (Column 2, Lines 16-34). While *Willer* may disclose a network “configured for sending and receiving IEEE 802.3 type data packets” (*Willer* Column 4, Lines 55-59), *Willer* fails to teach the above cited limitations. Moreover, the mere mention of a network protocol as an example of a communication means in no way teaches,

suggests, or discloses selecting inductive devices such that “one or more electrical characteristics of selected board-mounted transmission lines may be *tuned to substantially approximate one or more electrical characteristics required by a communication protocol* on an external network,” as recited in Claim 1; “an impedance measure from the Ethernet physical layer transceiver to an external Ethernet network connection on the circuit board *substantially matches an impedance measure required by a communication protocol* on the external Ethernet network,” as recited in Claim 9; or “*substantial impedance matching is achieved with a communication protocol* on a communication network to be connected to the information handling system,” as recited in Claim 19. (Emphasis added).

Furthermore, Applicants submit that *Jiang* fails to cover the deficiency described above. *Jiang* is directed to impedance matching circuits “to reduce or prevent the reflecting of signals on transmission lines” in order to “lengthen the network segment distance.” (Column 1, Lines 38-42 and Column 2, Lines 58-60). Besides a passing reference to 10BASE-T as an example network (Column 1, Lines 11-10 and Column 2, Lines 9-14), *Jiang* is silent as to selecting inductive devices such that “one or more electrical characteristics of selected board-mounted transmission lines may be *tuned to substantially approximate one or more electrical characteristics required by a communication protocol* on an external network,” as recited in Claim 1; “an impedance measure from the Ethernet physical layer transceiver to an external Ethernet network connection on the circuit board *substantially matches an impedance measure required by a communication protocol* on the external Ethernet network,” as recited in Claim 9; or “*substantial impedance matching is achieved with a communication protocol* on a communication network to be connected to the information handling system,” as recited in Claim 19. (Emphasis added). Further, as stated above, the mere mention of a network protocol cannot be deemed to teach, suggest, or disclose the cited elements of Applicants’ claims.

Additionally, *Hinson*, *Willer* or *Jiang*, alone or in combination, fail to disclose, suggest, or teach offsetting an electrical characteristic of a switch as found in Claims 1, 9, and 19. The Examiner cites to Column 3, Lines 43-60 of *Jiang* as disclosing this limitation. (FOA, Page 4; AA, Continuation, Page 2). Applicants respectfully disagree. The cited portion of *Jiang* merely discloses broadband differential signals transmitted by Ethernet that are received at an impedance matching circuit where impedance matching is done to reduce

or prevent the reflecting of signals on transmission lines. (Column 3, Lines 43-51). The cited portion of *Jiang*, however, is silent regarding selecting inductive devices to offset an electrical characteristic of a switch operably coupled to board-mounted transmission lines as found in Claims 1, 9 and 19.

For at least these reasons, the cited references fail to disclose the recited elements and, therefore, cannot render obvious Claims 1, 9 and 19. Given that Claims 2-8 depend from Claim 1, Claims 10-15 depend from Claim 9 and Claim 20 depends from Claim 19, Applicant respectfully submits that Claims 2-8, 10-15 and 20 are allowable. Applicant respectfully requests allowance of Claims 1-15, 19 and 20.

Request for Extension of Time

Applicants respectfully request a One-Month Extension of Time, and the Commissioner is hereby authorized to charge the extension filing fee of \$150.00 to Deposit Account No. 50-2148 of Baker Botts L.L.P.

CONCLUSION

Applicants submit these Arguments in Support of Pre-Appeal Brief Request for Review along with a Notice of Appeal. Applicants authorize the Commissioner to charge the amount of \$620.00 for the Notice of Appeal and \$150.00 for the one-month extension of time to Deposit Account No. 50-2148 of Baker Botts L.L.P. Applicants believe there are no other fees due at this time, however, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 50-2148 of Baker Botts L.L.P.